

CHERNYAYEV, V.I., inzh.

Vibration resistant electric motor for the VP-1 pile driver.
Trans. stroi. 13 no.8:42-44 Ag '63. (MIRA 17:2)

I. 41284-65 EWT(m)/EWP(t)/EWP(b) p1-4 11/1/61 DWH/AD

THE UNIVERSITY OF CHICAGO

TITLE: Phase equilibria in SiCl_4 sub- μ - PCl_5 sub- μ - BCl_3 sub- μ system.
component

SOURCE: Zhurnal fizicheskoy khimii, v. 39, 1965, 307-312.

TOPIC TAGS: semiconductor; manufacture; lithography; silicon; lithography; interconnect; copper; plasma etching; deposition; pentacene; oxide

ABSTRACT: The authors previously studied the equilibrium systems containing tetrahalides and the trihalides of P, B, Sb and other elements (see, e.g., V. N. Chernyayev, V. V. Krapukhin, Yu. I. Stolyarov, *Dokl. Akad. Nauk SSSR*, 1978, 241, 1387). A natural extension of that work was to study the equilibrium in the $\text{SiCl}_4\text{-PCl}_5$ and $\text{SiCl}_4\text{-PCl}_3$ systems during the separate and simultaneous presence of the second components. These studies were stimulated by the fact that boron and phosphorus are the most harmful impurities in semiconductor Si, which is produced from SiCl_4 .

Card 1/2

L 41284-65

ACCESSION NR: AP5006689

In addition, the existing data concerning

the following items are being reviewed:

1. The existing data concerning

the following items are being reviewed:

2. The existing data concerning

the following items are being reviewed:

3. The existing data concerning

the following items are being reviewed:

4. The existing data concerning

the following items are being reviewed:

5. The existing data concerning

ASSOCIATION OF THE FOLLOWING

ITEMS:

6. The existing data concerning

7. The existing data concerning

CHERNYAYEV, V.N.
USSR/Chemistry - Transportation of chemicals

FD-2644

Card 1/1 Pub. 50-9/18

Author : Chernyayev, V. N.*

Title : ~~Concerning the transportation of powdered chemicals~~

Periodical : Khim. prom. No 3, 157-158, Apr-May 1955

Abstract : Comments on an article by P. F. Derevitskiy (Khim. prom. No 7, 429, 1954) that deals with the transportation of powdered chemicals.

Institution : Division of New Technical Methods, Technical Administration of the Ministry of Transportation USSR (*Chief Technical Expert of)

CHERNYAYEV, V.N.; PUSTIL'NIK, A.I.

Phase equilibrium in solutions of silicon tetraiodide and
antimony triiodide. Izv.vys.ucheb.zav.; tsvet.met. 2 no.6:
147-153 '59. (MIRA 13:4)

1. Krasnoyarskiy institut tsvetnykh metallov, problemnaya
laboratoriya chistykh metallov, metallicheskich soedineniy
i poluprovodnikovyykh materialov.
(Vapor-liquid equilibrium) (Antimony iodide)
(Silicon iodide)

S/149/60/000/006/012/018
A006/A001

AUTHORS: Krapukhin, V. V., Chernyavov, V. N.

TITLE: On Deep Purification of Silicon Tetrachloride From Metal Impurities
by the Frationation Method

PERIODICAL: Izvestiya vysshih uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1960,
No. 6, pp. 124-131

TEXT: Among the methods of purifying metals and salts, distillation and fractionation processes came into extended use. Fractionation is based on the value of the coefficient of separation (α_s) at a given pressure and temperature. Data on the vapor-liquid equilibrium, which is one of the basic scientific trends in this field, are available only for medium concentrations of one component in the other and not for very low concentrations. Therefore the fractionation process of deep purification for a concentration range of $1 \cdot 10^{-2}$ to $1 \cdot 10^{-7}\%$ has an empirical nature, and previous attempts of calculating the process were based on laws which are justified for ideal solutions. The authors studied conditions of deep separation of impurities from the basic component, and the first place attempted to reveal the value of the actual coefficient of separation (α_s) in the zone adjacent to a pure component, using the equation:

Card 1/5

S/149/60/000/006/012/018
A006/A001

On Deep Purification of Silicon Tetrachloride From Metal Impurities by the Fractionation Method

$$\alpha_s = \frac{P_1^0 \gamma_1}{P_2^0 \gamma_2}$$

where P_1^0 and P_2^0 are the pressures of saturated vapors of pure components at a given temperature of the mixture; the indices 1 and 2 are always pertaining to the basic component and the admixture, respectively; γ_1 and γ_2 are the coefficients of activity of the components in the solution which vary with changes in the composition of the solution. A combined analysis is made of the Gibbs-Duhem equation and the relative volatility, and it is assumed that impurities might exist for which the coefficient of separation varies with the transition from their medium concentration in the basic component to a range of a very low content. A more precise definition of the α_s value is made by 2 series of tests. The first series is made on an Aldershaw (Ol'dershaw) type column of 490 mm height and 32 mm in diameter with 15 baffles with up to 42 apertures of 0.8 - 0.9 mm in diameter. The second series is performed on a quartz column with perforated plates and 10 baffles (Fig. 2). This device can operate at higher temperatures and is less

Card 2/5

S/149/60/000/005/012/018
A006/A001

On Deep Purification of Silicon Tetrachloride From Metal Impurities by the Fractionation Method

affected by corrosion. The spraying rate is specially regulated to remain constant. The investigation was made on the $\text{SiCl}_4 - \text{PCl}_3$ and the $\text{SiCl}_4 - \text{FeCl}_3$ systems. An amount of 1.5 kg initial mixture at a given concentration was placed in a vat. After having attained the normal conditions, the column was brought to a stationary state within 2 hours. Then at a very low rate the first samples of the distillate were taken from the vat every 2 - 2 1/2 hours. Simultaneously samples were taken from the vat in an amount of 1.5 - 2% of the liquid volume in the vat. Then the spraying rates of the upper and lower sections of the apparatus were measured. The composition of the distillate and of the liquid in the vat were used to calculate the mean value of λ_s for a concentration range of X_{vat} and X_{dist} according to the equation

$$\lambda_s = 10^{\frac{\lg X_{\text{vat}} - \lg X_{\text{dist}}}{n}}$$

where X_{dist} and X_{vat} are the compositions of the distillate and the liquid in the vat, n is the number of the theoretical plates in the apparatus. The chemical analysis was made by T. P. Kiseleva under the supervision of B. M. Lipshits. The

1/5

S/149/60/000/006/012/018
A006/A001

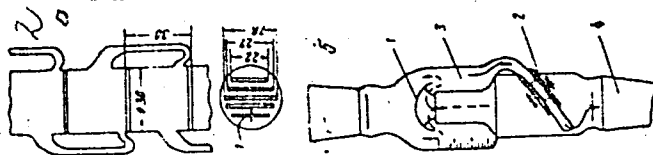
On Deep Purification of Silicon Tetrachloride From Metal Impurities by the Fractionation Method

experiments performed in the low concentration range of the second component show that the coefficient of separation in the case of the SiCl_4 - PCl_3 system is constant, and variable in the case of the SiCl_4 - FeCl_3 system. In the concentration range of PCl_3 in SiCl_4 , other impurities do not considerably affect the changes in the coefficient of separation determined for a binary mixture. The assumption is confirmed that the prevalent role in the behavior of impurities in deep purification is exerted by the interaction of the impurities with the basic component. In this connection the study of binary systems at a low concentration of one of the components, acquires a special significance when solving the problem of deep purification of a substance.

Figure 2:

Figure 2.

Fractionation column with perforated baffles (a) and phlegmometers (b); 1 - fungiform part; 2 - chlorvinyl hose with clamp; 3 - pocket for measuring the volume; 4 - section.



Card 4/5

S/149/60/000/006/012/018
A006/A001

On Deep Purification of Silicon Tetrachloride From Metal Impurities by the Fractionation Method

There are 4 figures, 2 tables and 11 references: 8 Soviet and 3 English.

ASSOCIATION: Krasnoyarskiy institut tsvetnykh metallov (Krasnoyarsk Institute of Non-Ferrous Metals) Problemnaya laboratoriya chistykh metallov, metallicheskiy soedineniy i poluprovodnikovyykh materialov (Pilot Laboratory of Pure Metals, Metallic Compounds and Semiconductor Materials)

SUBMITTED: July 20, 1959

Card 5/5

S/078/60/005/007/035/043/XI
B004/B060

AUTHORS: Nisel'son, L. A., Chernyavov, V. N.

TITLE: $\text{SiI}_4 - \text{BI}_3$ and $\text{SiI}_4 - \text{Al}_2\text{I}_6$ Systems

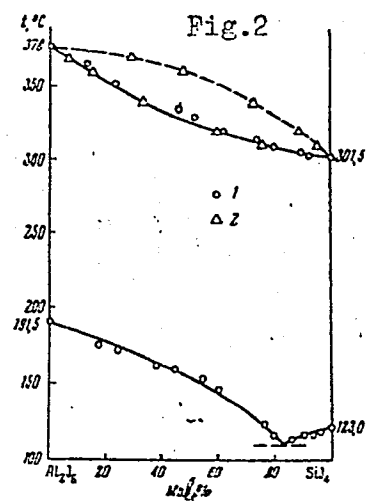
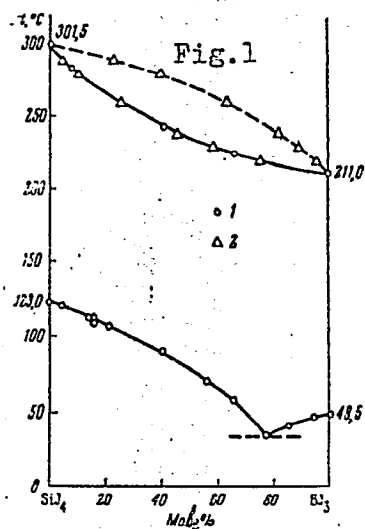
PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 7,
pp. 1564-1566

TEXT: In view of the fact that volatile iodides are used to produce high-purity elements, the authors examined the phase equilibria in the $\text{SiI}_4 - \text{BI}_3$ and $\text{SiI}_4 - \text{Al}_2\text{I}_6$ systems. The phase equilibrium between crystals and liquid was determined by a method described in Ref. 1, and the boiling point according to Ref. 2 at 760 torr. Results are given in Tables 1,2 and in Figs: 1,2.

Card 1/4

$\text{SiI}_4 - \text{BI}_3$ and $\text{SiI}_4 - \text{Al}_2\text{I}_6$ Systems

S/078/60/005/007/035/043/XX
B004/B060



Card 2/4

$\text{SiI}_4 - \text{BI}_3$ and $\text{SiI}_4 - \text{Al}_2\text{I}_6$ Systems

S/078/60/005/007/035/043/XX
B004/B060

Eutectics appear in both systems. A linear dependence was found between the logarithm of the molar SiI_4 fraction and the reciprocal value of absolute temperature. The thermal effects calculated from the tangent of this straight line lie near the melting heats of SiI_4 and Al_2I_6 . The systems, therefore, follow the Schröder equation. The Raoult law holds for both systems. This was confirmed by measuring the pressure of saturated vapor of pure SiI_4 . Table 3 gives the boiling points of Al_2I_6 between 148 and 854.5 torr, and of SiI_4 between 105.5 and 880.0 torr, determined by means of a Sventoslavskiy ebulliometer. The authors point to the possibility of calculating the phase equilibrium between liquid and vapor from the data relative to the phase equilibrium crystal - liquid, and vice versa, on the basis of the activity coefficients, provided the system does not deviate too much from an ideal one. There are 2 figures, 3 tables, and 2 references: 1 Soviet, 1 US, and 1 German. ✓

SUBMITTED: March 12, 1959

Card 3/4

$\text{SiI}_4 - \text{BI}_3$ and $\text{SiI}_4 - \text{Al}_2\text{I}_6$ Systems

S/078/60/005/007/035/043/XX
B004/B060

Legend to Fig. 1: Phase equilibria in the $\text{SiI}_4 - \text{BI}_3$ system
Legend to Fig. 2: Phase equilibria in the $\text{SiI}_4 - \text{Al}_2\text{I}_6$ system

To both Figs.: 1) points determined experimentally
2) calculated by Raoult's equation

✓

Card 4/4


S/136/61/000/008/003/005
E021/E180

AUTHORS: Chernyayev, V.N., Krapukhin, V.V., and Martynov, Yu.M.

TITLE: The purification of silicon tetrachloride by
redistillation

PERIODICAL: Tsvetnyye metally, 1961, No.8, pp. 56-59

TEXT: In the production of silicon, the purification of halide compounds is very important. An investigation has been carried out into the fractional distillation of silicon tetrachloride, with a view to removing other chloride compounds. The coefficients of separation (ratio of the components in the distillate) of halide compounds of silicon and of potential impurities were calculated and experimentally determined, and are given in Table 1. Redistillation experiments were carried out using glass columns containing a varying number of plates (15, 25 and 40) with different efficiencies (11.5, 20 and 31); the efficiencies were determined by separating standard mixtures of benzene and carbon tetrachloride. The results are given in Table 2. They show that this method can be used for removing non-polar and slightly polar compounds but not highly polar impurities (Fe, Al and Ca).
Card 1/ 6



The purification of silicon

S/136/61/000/008/003/005
E021/E180

✓

There are 2 tables and 10 references: 8 Soviet and 2 English.

The English language references read as follows:

Ref.1: G. Martin. J. Chem. Soc., 1914, 105, 2836.

Ref.5: J.H. Hildebrand, R.L. Scott. The Solubility of
Nonelectrolytes. N.-J., 1950.

Card 2/6

MURACH, N.N.; KRAPUKHIN, V.V.; KULIKOV, F.S.; CHERNYAYEV, V.N.; NEKHAMKIN, L.G.

Certain regularities in the extraction of germanium chloride. Zhur.
prikl.khim. 34 no.10;2188-2194 0 '61. (MIRA 14:11)
(Germanium chloride) (Extraction (Chemistry))

CHERNYAYEV, V.N.

Adsorption purification of silicon tetrachloride. Zhur.prikl.
khim. 35 no.7:1411-1415 J1 '62. (MIRA 15:8)
(Silicon chloride) (Adsorption)

CHERNYAYEV, V.N.; KRAPUKHIN, V.V.; CHERNUKHA, G.D.

Extraction purification of silicon tetrachloride. Zhur.prikl.
khim. 35 no.10:2161-2165 0 '62. (MIRA 15:12)
(Silicon chloride) (Extraction (Chemistry))

S/076/62/036/007/006/010
B101/B138

AUTHORS: Chernyayev, V. N., Krapukhin, V. V., and Stolyarov, Yu. I.

TITLE: Phase equilibria in the system SiCl_4 - SbCl_3 at low antimony trichloride concentrations

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 7, 1962, 1521 - 1524

TEXT: The behavior of SbCl_3 was studied as impurity in SiCl_4 . The solubility of SbCl_3 (at concentrations of 0.24 - 1.87 mole%) in SiCl_4 was determined at 0 - 118°C, and the phase equilibrium according to V. A. Kireyev, Yu. N. Sheynker, Ye. M. Peresleni (Zh. fiz. khimii, 352, 1952). High-purity substances were used. SiCl_4 contained the following impurities (% by weight): Fe, Al, Ca, Mn, Mg, and Cu $< 1 \cdot 10^{-7}$; P, Sn, and V $< 1 \cdot 10^{-6}$; B $< 1 \cdot 10^{-5}$; SbCl_3 contained less than $1 \cdot 10^{-4}\%$ by weight of Fe. Results: (1) The heat of solution ΔH_{sol} of SbCl_3 in SiCl_4 was 8.4 kcal/mole·deg. (2) The activity coefficient f_2 of SbCl_3 obeys the equation $\log f_2 = -(\Delta H_{\text{sol}} - \Delta H^0)/RT + (\Delta H_{\text{sol}} - \Delta H^0)/RT^0$, where ΔH^0 is the

Card 1/2

S/076/62/036/007/006/010
B101/B138

Phase equilibria in ...

heat of fusion of SbCl_3 , and T^0 ($^{\circ}\text{K}$) its melting point. (3) The experimental separation coefficient α agreed well with the value calculated for a regular solution (13.9) whereas calculation according to Raoult's law gave a value 40 times higher. Irrespective of the high dipole moment of SbCl_3 , the system $\text{SiCl}_4 - \text{SbCl}_3$ obeys the law for regular solutions at low SbCl_3 concentrations. There are 2 figures and 3 tables. ✓

ASSOCIATION: Institut tsvetnykh metallov im. M. I. Kalinina (Institute of Nonferrous Metals imeni M. I. Kalinin)

SUBMITTED: January 20, 1961

Card 2/2

45600

S/080/63/036/001/005/026
D226/D307

11.4300

AUTHORS:

Chernyayev, V.N., Povedskaya, L.G. and
Kovalev, Yu. T.

TITLE:

Rectification of metals

PERIODICAL:

Zhurnal prikladnoy khimii, v. 36, no. 1,
1963, 56 - 62

TEXT:

The rectification of Hg (at atm. pressure and under vacuum) and of Cd and Zn (vacuum only) was studied in an effort to develop a suitable apparatus for this purpose and to assess the possibilities of this method for the production of very pure metals. A transparent silica column of 18 bubbler-type plates was used for Hg. The apparatus is shown in Fig. 1. Both this, and a similar 10-plate column allowed successful rectification to be carried out; the collecting rates varied, e.g. from 3.7 to 28.0 g distilled Hg per minute. Regulation of the amount of reflux was difficult. Apparatus of basically the same construction was used for Cd and Zn, with a 10-plate column, with equally successful results. It is concluded

Card 1/4

Rectification of metals

S/O80/63/036/001/005/026
D226/D307

that for columns up to 80 mm in dia, the plate separation, S , is sufficient when $S = (3 + 5) h$ [sic] where h is the thickness of metal on each plate. Changes in the linear velocity of the vapor along the column are calculated and found to increase from 1.44 at plate 1 to 11.4 m/sec on plate 9. The velocity increased sharply from plate to plate, the increments becoming greater towards the top of the column. Bubbling on the plates is an essential though not the only condition for successful purification on columns of this type. There are 5 figures and 2 tables.

SUBMITTED: September 19, 1961

Fig. 1: Diagram of the apparatus for the rectification of mercury, with an 18-plate column and a device for the measurement of the amount of reflux.
Legend: 1 - container, 2 - thermometer housing, 3 - column, 4 - heating jacket, 5 - transformer, 6 - reflux measuring device, 7 - needle, 8 - dephlegmator, 9 - cooling jackets, 10 - trap, 11 - manometer, 12 - Tishchenko flask, 13 -

Card 2/4

Rectification of metals

456000

S/080/63/036/001/005/026

D226/D307

vacuum pump, 14 - clip, 15 - receiver.

A - air

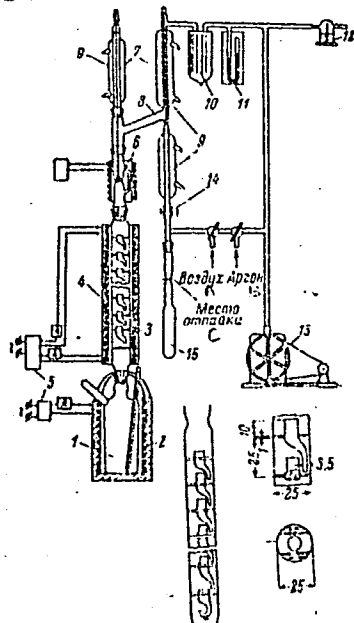
B - argon

C - point of detachment

Card 3/4

Rectification of metals

S/080/63/036/001/005/026
D226/D307



Card 4/4

ACCESSION NR: AP4017565

S/0149/64/000/001/0076/0083

AUTHORS: Chernyayev, V. N.; Yershova, S. A.

TITLE: Fluid-vapor phase equilibrium in Zn-Cd system in the region of low zinc and cadmium concentrations

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 1, 1964, 76-33

TOPIC TAGS: phase equilibrium, boiling temperature, alloy composition, ebulliometer, vapor saturation pressure, separation coefficient

ABSTRACT: The dependence of vapor saturation pressure on temperature and composition for zinc, cadmium, and their alloys in regions adjacent to the pure components was determined. A Sventoslavskiy ebulliometer was used to determine the boiling points below 1200C. The data obtained was then used to calculate the separation coefficient for limiting concentration regions in the Zn-Cd system. This yielded values of 14 and 16.2 at 813C and 9.0 to 9.3 at 905C. The separation coefficient is defined by.

$$\alpha_p = \frac{p_1^0}{p_2^0} \cdot \frac{\gamma_1}{\gamma_2}$$

Card 1/2

ACCESSION NR: AP4017565

where P_1^0 and P_2^0 - vapor pressure of base component and mixture respectively, and γ_1 and γ_2 - activation coefficient of solution components. Orig. art. has: 6 figures, 5 equations, and 2 tables.

ASSOCIATION: Moskovskiy institut stali i splavov. Laboratoriya chistykh metallov i poluprovodnikov soedineniy (Moscow Institute for Steels and Alloys. Laboratory of Pure Metals and Semiconductor Compounds)

SUBMITTED: 28Mar63

DATE ACQ: 23Mar64

ENCL: 00

SUB CODE: ML

NO REF SOV: 009

OTHER: 008

Card 2/2

YERSHOVA, S.A.; POVEDSKAYA, L.G.; CHERNYAYEV, V.N.

Wettability of graphite and quartz by zinc and antimony. TSvet.
met. 37 no.6:83 Je '64. (MIRA 17:9)

L 23411-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD
ACCESSION NR: AP5000506 S/0080/64/037/011/2407/2414

AUTHOR: Chernyayev, V. N.; Yershova, S.A.

TITLE: Studies on the thorough purification of zinc 27

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 11, 1964, 2407-2414

TOPIC TAGS: zinc, zinc purification, vacuum fractionation, zinc chromatography

ABSTRACT: Highly purified zinc was obtained by vacuum fractionation in a quartz and graphite apparatus. This method of purification gave better results than those obtained by the distillation process. In the first experiment, TsO zinc was used; in the second $V-4$ zinc, obtained by distillation in nitrogen. TsO zinc was first subjected to fractionation in a graphite column, then in a more concentrated type column for the removal of volatile admixtures. The content of As, Cu, Pb and Cd in $V-4$ and TsO zinc after graphite fractionation was found to vary. The degree of Cd and Pb separation was proportional to the number of plates in the fractionating columns, although the removal of As and Cu became more difficult after 2-4 plates. The presence of Cd served as an indication of the efficiency of the process. From the data obtained in quartz fractionation, it is obvious that

Card 1/2

TOPIC TAGS: mercury purification distillation

ABSTRACT: The purification of mercury by distillation and the effect of impurities on the purification of the distillate.

examined a 100 g sample with 5% impurities less than 10% of the co Zn, Pb, Mn, Cd and Cu impurities

Cord 1 1/2

D 46550-05

ACCESSION NR: AP5002186

wt. % were essentially completely new
material. The material was stable.

ASSOCIATION: None

SUBMITTED: 001-003

FM

NR REF: 001-003

001

Card 2/2

CHERNYAYEV, V.N.; KERNOZHITSKIY, V.K.

Phase equilibria in the systems $\text{SiCl}_4 - \text{BCl}_3$, $\text{SiCl}_4 - \text{PCl}_5$ and
 $\text{SiCl}_4 - \text{PCl}_5 \cdot \text{BCl}_3$ at low concentration of the second component.
Zhur. fiz. khim. 39 no.2:307-312 F '65. (MIRA 18:4)

1. Moskovskiy institut stali i splavov.

L 38273-65 EWT(m)/EWP(+)/EWP(b)
ACCEPTED BY

ATTENTION: This document contains information that is exempt from public release under the Freedom of Information Act, 5 U.S.C. 552. It is to be controlled, stored, handled, transmitted, distributed, and disposed of in accordance with the provisions of the Department of Defense Information Security Manual, DoD 5055.01, and the Department of Defense Information Security Manual, DoD 5055.02.

[illegible]

SOURCE: Byulleten' izobretenii :

znak

TABLE 2. Vacuum refining
results, 1960-1961

As a result of the above, the authors conclude that the use of the proposed method for the analysis of the data obtained from the experiments on the effect of the temperature on the rate of vaporization of the liquid and the amount of the substance that has evaporated is possible.

AS - 10-11-68 - 10-11-68

En

ACCESSION REF: AFS 7437

SUBMITTED: 24 MAY 68

ENCL

NO REF SOV 000

OTH

Card 2 of 2

L 31993-66 EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6019565 SOURCE CODE: UR/0080/66/039/006/1259/1266

AUTHOR: Chernyayev, V. N.; Zernov, V. B.; Povedskaya, L. G.; Yershova, S. A.;
Klofach, I. I.

ORG: none

TITLE: Deep purification of cadmium and zinc by rectification and zone refining

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 6, 1966, 1259-1266

TOPIC TAGS: cadmium, zinc, metal purification, metal zone refining, electric resistance, cadmium compound, zinc oxide

ABSTRACT: Deep purification of CdO commercial-grade cadmium and ZnO commercial-grade zinc by rectification and subsequent zone refining is described. Rectification was done in a h-f induction heated, graphite, shelf-type column with 26 plates, or in a quartz bubbling-type column with 10 and 20 plates. A single charge of metal was 9-11 kg. The purity of the metal fractions obtained with rectification was determined by measurement of the residual electric resistance at 4.2 K. Rectification alone lowered the total content of Al, Ni, Sn, Sb, Pb, Bi, Co, Mn, Ca, Ga and other impurities in cadmium to less than $1 \cdot 10^{-5}$ wt %. The yield was 60% of the charge. The lowest values of the residual electric resistance obtained with rectification was $0.9 \cdot 10^{-10}$ ohm-cm for zinc and $0.6 \cdot 10^{-10}$ ohm-cm for cadmium. Additional purification was done by 20-pass zone refining with a molten metal zone 4.5 cm wide

UDC: 621.915.592:546.47'48

Card 1/2

L 31993-66

ACC NR: AP6019565

and a zone speed of 4.5 mm/hr. With zone refining the residual electric resistance in zinc and cadmium decreased to $0.6 \cdot 10^{-10}$ and $0.48 \cdot 10^{-10}$ ohm·cm, respectively (the respective purity 99.99998%). From the data on cadmium rectification the coefficient of the separation for the Cd-Zn system with a low concentration ($1 \cdot 10^{-3} - 10^{-4}$ wt%) of the second component was calculated and found to be 2.0 ± 0.3 . [MS]

Orig. art. has: 6 figures and 4 tables.

SUB CODE: 11, 13/ SUBM DATE: 06May65/ ORIG REF: 015/ ATD PRESS: 5021

Card 2/2 LL

L 07862-67 EWT(d)/EWP(c)/EWP(v)/EWP(k)/EWP(l) IJP(c)
 ACC NR: AP6011252 (N) SOURCE CODE: UR/0413/66/000/006/0094/0094
 AUTHORS: Levykin, F. V.; Zaikin, I. M.; Sapozhnikov, E. Ya.; Chernyayev, V. Ye.
 ORG: none
 TITLE: A method for ultrasonic inspection of bent bars. Class 42, No. 179978
 SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 94
 TOPIC TAGS: ultrasound, ultrasonic emitter, ultrasonic equipment, ultrasonic flaw detector, ultrasonic inspection, ultrasonic sensor, ultrasonic wave
 ABSTRACT: This Author Certificate presents a method for ultrasonic inspection of bent bars, based on the utilization of surficial ultrasonic waves. To increase the sensitivity of the recording apparatus used in detection of cracks, the angle through which the emitters are turned is so chosen that the ultrasonic rays produced by the emitters and moving along the cylindrical surface of the neck of the bent bar intersect at the center of bend. To decrease the influence of errors on the accuracy of inspection and to maintain a constant angle of intersection of the ultrasonic rays, the emitters, in the course of inspection, progress along the outer surface of the neck opposite to the surface being checked on the inspected rod. To determine the dimensions of the detected crack, the transverse size of the cracks is measured with a feeler operating on the principle of reflex. The determination of the longitudinal dimensions is attained with an echo-measuring feeler.
 SUB CODE: 13/ SUBM DATE: 05Feb63 UDC: 658.562.6 621.824.3 620.179.16
 Card 1/1 bs

CHERNYAYEV, Ye., inzh.

Making reinforced concrete poles and supports in construction
yards. Sel'. stroi. 12 no.4:14-15 Ap '58. (MIRA 11:5)
(Electric lines--Poles)

CHERNYAYEV, Yu. A.

PLATE I BOOK EXPLANATION 507/5291
507/51-2-36

Abstracts and USSR. Institute for meteoritics

Meteoritics; normal meteor. pp. 13 (Meteoritics) Collection of Articles, No. 13)

Moscow, at USSR, 1980. 1,200 copies printed.

Ed.: V.O. Pavlov, Academician Deputy Resp. Ed.: Ye.I. Krivov, Ed. of Publishing

House: I.I. Bakhin, Tech. Ed.: A.P. Gusev.

PURPOSE: This publication is intended for astrophysicists, astronomers, and geolo-

gists, particularly those interested in the study of meteoritics.

CONTENT: This collection of 56 articles on problems in meteoritics includes the

transcripts of the 1978 Meteoritic Conference which took place in Moscow,

June 3 - 5, 1978. The introductory article reviews meteoritics. Individual

articles deal with the fall, physical and chemical characteristics of meteor-

ites, the danger presented by meteor to aircraft and satellites in dis-

covery. V.O. Pavlov describes the theory and solves computations for

determining the distribution of meteor in the atmosphere during lunar eclipses.

References accompany individual articles.

Author: A. Ilievskis, Director in the Russian SSR

Editor: B. (Soviet, Bulgaria). The Origin of Asteroids and Meteorites

Cond. Yur. G.D. Study of the Composition of Tectites. 2. Meteorites

Polymerized, Jerry (Warsaw, Poland). The Specific Weight of Meteorites

Dymova, M.I., and V.Ye. Dymovskaya. Results of the Chemical Analysis

of Glass Meteorites and Iron Meteorites from the Collection of the Acad-

emy of Sciences USSR

Alievskis, A.I. New Data on the Physical Properties of Some Meteorites

Yakov, I.A., I.B. Bogdanov, M.P. Il'ina, and I.D. Mikhaleva. Determin-

ation of the Composition of the Phases of Meteorites from the Soviet Ex-

perimental Analysis (Synopsis of the Report)

Yakov, I.A. Preliminary Results of the Luminescence-Stimulometric

Analysis of Four Carbonaceous Meteorites

Gerasim, I.Ye., and M.Ye. Gerasimov. New Data on the Determination of the

Content of Uranium in Meteorites

Gerasim, I.Ye., I.L. Gerasimov, and M.Ye. Gerasimov. Determination of the

Age of Meteorites by the Lead-Isotopic Method

Vysotskiy, A.P., Academician, I.E. Zolotarevskiy, and E.G. Zolotarev.

On the Origin of Meteorites

Gerasim, I.Ye., and I.Ye. Gerasimov. Products of Cosmic Radiation in the

Structure of Meteorites

Card 4/5

(5)

BOGORODITSKIY, N.P., doktor tekhnicheskikh nauk, professor. (Leningrad);
REYNOV, N.M., kandidat tekhnicheskikh nauk. (Leningrad);
CHERNYAYEV, Yu.S., inzhener (Leningrad).

100 kv gas-filled prototype capacitor. Elektrichestvo no.1:
68-71 Ja '56. (MLRA 9:3)
(Condensers (Electricity))

SOV/112-59-17-37156

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 17, p 197 (USSR)

AUTHOR: Chernyayev, Yu.S.

TITLE: On the Feasibility of Using Compressed Gases as a High Voltage Insulation in X-Ray Equipment

PERIODICAL: Nauchn. tr. Gos. in-ta usoversh. vrachey im. S.M. Kirova, 1958, Nr 13, pp 194-198

ABSTRACT:

The electric strength of the air is 30 - 32 kv/cm at the atmospheric pressure, 70 - 75 kv/cm at a pressure of 3 atm and exceeds the electric strength of transformer oil (120 - 180 kv/cm) at 10 atm. The substitution of transformer oil in block transformers or in protective casings of X-ray tubes by a compressed gas (for instance by SF₆) offers considerable advantages: 1) weight reduction; 2) simple checking of the quality of insulation (manometer); 3) no heterogeneities, foreign matter, scales, etc; no aging of insulation; 4) considerable reduction of the radiation absorption in the insulation layer; 5) lower costs. The only shortcoming of the gas insulation is its lower heat conductivity, which is compensated by the increase in temperature of the parts contacting the insulation (temperature

Card 1/2

SOV/112-59-17-37156

On the Feasibility of Using Compressed Gases as a High Voltage Insulation in X-Ray Equipment

limit for oil 90 - 95°C, for SF₆ up to 300°C). There are 6 references.

P.K.S.

Card 2/2

SOIN, S.G.; CHERNYAYEV, Zh.A.

Development of the periblastic sinus in embryos of salmonid and some other bony fishes. Dokl.AN SSSR 137 no.5:1249-1252 Ap '61.
(MIRA 14:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom V.N.Shaposhnikovym.
(Embryology—Fishes)

CHERNYAYEV, Zh. A.

Vertical chamber for observing the development of eggs of
salmonoid fishes. Vop. ikht. 2 no.3:558-560 '62.
(MIRA 15:10)

1. Institut limnologii Sibirskogo otdeleniya AN SSSR, pochtovoye
otdeleniye Listvenichnoye, Irkutskoy oblasti.

(Salmon) (Ichthyological research)

USSR/Cultivated Plants - Fodders.

11.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44177

Author : Chernyayeva, A.M.

Inst : Sakhalin Complex Scientific Research Institute, AS USSR

Title : Experiment in Introducing Two Sakhalin Varieties of Buckwheat into Culture.

Orig Pub : Seobshch. Sakhalinsk. kholodum. n.-i. in-ta AN SSSR, 1956, vyp. 4, 30-41.

Abstract : This article gives detailed biological and economic characteristics of the Sakhalin buckwheat and of Weirich's buckwheat. Because of the exceptionally rapid growth of these plants, their ability to accumulate a large amount of green mass and because of their chemical composition they prove to be very suitable for their utilization as feed plants. The plants of both varieties are perennial,

Card 1/2

USSR/Cultivated Plants -- Fodders.

11.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44177

they grow well and can produce two sowings (up to 60 tons of green bulk). During its first year the Salsalin buckwheat is distinguished by its increased requirements for warmth, by the low germination of the seeds and by its slow growth. -- B.A. Zhuchkova

Card 2/2

- 96 -

CHERNYAYEVA, A.M.

Knotweed, a new tannin plant. Trudy Sakh. kompl. nauch.-issl. inst.
AN SSSR no. 9:81-85 "60. (MIRA 14:4)
(Knotweed)

ALEKSEYEV, V.S.; CHERNYAYEVA, A.M.

Alkaloids of *Senecio palmatus* Pall. Trudy Sakh. kompl. nauch.-issl.
inst. AN SSSR no. 9:130-133 '60. (MIRA 14:4)

1. Dnepropetrovskiy meditsinskiy institut (for Alekseyev).
(Senecio) Alkaloids)

CHERNYAYEVA, A.M.

Morphological and biological characteristics of the root system of
Polygonum weyrichii Fr. Schm. Bot. zhur. 45 no.11:1672-1677 N '60.
(MIRA 13:11)

1. Sakhalinskiy kompleksnyy nauchno-issledovatel'skiy institut Akademii
nauk SSSR, g. Novo-Aleksandrovsk.
(Knotweed) (Roots (Botany))

1ST AND 2ND ORDERS		PROCESSES AND PROPERTIES INDEX	
CHERNYAYEVA, D. I.		9	
<p>Pickling metals. Sh. Sh. Shvarts and A. T. Chernyayeva. U.S.S.R. 66,708, July 31, 1960. To pickling baths of HCl and H₂SO₄ is added a salt of dithiocarbamic or alkylidithiocarbamic acid, e.g., Zn butyldithiocarbamate. M. H.</p>			
<p>ASH-51A METALLURGICAL LITERATURE CLASSIFICATION</p>			
FROM DIVISION		TO DIVISION	
GROUP		SUBGROUP	

SYCHEVA, T.P.; KUZ'MICHEVA, T.P.; CHERNYAYEVA, A.T.; TRUPP, T.Kh.;
SHCHUKINA, M.N.

Synthesis of apressin. Med.prom. 14 no.2:13-17 F '60.

(MIRA 13:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy
institut imeni S. Ordzhonikidze.
(PETHALAZINE)

CHERNYAYEVA, F.A.

~~_____~~
Dete mining the length of meandering lines on maps by means of
a compass. Uch. zap. LGU no.226:182-200 '58. (MIRA 11:11)
(Cartometry)

CHERNYAYEVA, F.A.; MOLCHANOVA, Z.P.

Using planimetric and weighing methods for the approximate
determination of areas on maps. Vest. LGU 18 no.12:132-135
'63. (MIRA 16:8)

(Cartography)

L 23467-65 EWT(1)/T/EED(b)-3 Page 2 INT(c) GW

... ..

... ..

... .. Leningrad, Universitet.

... ..

... .. photography.

... ..

... .. using the major

... ..

... ..

... ..

photos were insignificant when the tilt and involved in the photographs

was not excessive. These errors were

... ..

... ..

... ..

... ..

L 23467-65

ACCESSION NR: AP4049869

definite pattern according to which
the... of the... as
... of the
... of the...
... of the...
... of the...
... of the...
... of the...

... of the...

ASSOCIATION: None

SUBMITTED: 01 May 63

ENCL: 00

SUB CODE: ES

NO REF SOV: 010

OTHER: ...

Card 2/2

SMIRNOV, L. Ye.; CHERNYAYEVA, F.A.

Measuring areas on aerial photographs. Vest. LGU 19 no.12:
129-140 '64 (MIRA 17:8)

CHERNYAYEVA, F.A.

Morphometric characteristics of drainage basins of the Soviet
Arctic seas and the rivers flowing into them. Trudy AANII 268:
112-147 '65. (MIRA 18:3)

CHERNYAYEVA, F.K., klinicheskiy ordinator

Lipoproteins of the blood in atherosclerosis and their dynamics in the process of treatment with the saponins of *Dioscorea caucasica*. Trudy KGMI no.10:250-253 '63.

(MIRA 18:1)

1. Iz kafedry gosital'noy terapii (zav. kafedroy - prof. I.B. Shulutko) Kalininskogo gosudarstvennogo meditsinskogo instituta.

KHOL'KIN, Yu.I.; CHERNYAYEVA, G.N.

Methods for increasing the commercial stability of furfurole.
Gidroliz. i lesokhim. prom. 16 no.7:6-8 '63. (MIRA 16:11)

1. Institut lesa i drevesiny Sibirskogo otdeleniya AN SSSR.

CHERNYAYEVA, G.N.; KHOL'KIN, Yu.I.

Photometric determination of high-molecular weight products of
autoxidation in furfuryl alcohol. Zhur. anal. khim. 20 no.3:
375-379 '65. (MIRA 18:5)

1. Institut lesa i drevesiny Sibirskogo otdeleniya AN SSSR,
Krasnoyarsk.

CHERNYAYEVA, G. V.

"The Problem of the Change in Blood Pressure and the Biological Properties of the Blood After Removal of a Tourniquet." Cand Med Sci, Dnepropetrovsk State Medical Inst, Min Health Ukrainian SSR, Dnepropetrovsk, 1954. (KL, No 2, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

ZINOV'YEV, L.S.; KONOVALOV, I.N.; CHERNYAYEVA, I.I.

Effect of gibberellic acid on the interruption of dormancy in
arboraceous plants. Bot. zhur. 46 no.12:1781-1786 D '81.

(MIRA 15:1)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR i
Vsesoyuznyy institut sel'skokhozyaystvennoy mikrobiologii
Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni Lenina,
Leningrad.

(Gibberellic acid)
(Dormancy in plants)
(Trees)

EYDEL'MAN, Z.M.; POPOVA, O.F.; SHIRYAYEVA, G.A.; CHERNYAYEVA, I.I.

Effect of the inhibitors of the photochemical reaction of
xanthophyll interconversion on the process of photosynthetic
phosphorylation. Trudy Bot. inst. Ser 4 no.16:142-153 '63.
(MIRA 17:2)

FINKEL'SHTEN, David Naumovich; SIBIRYAKOVA, L.V., red.

[Invisible treasure of the earth] Nevidimoe sokrovishe zemli. Sverdlovsk, Tiumenskoe knizhnoe izd-vo, 1965. 101 p. (MIRA 17:10)

VERNIKOV, Samuil Markovich; CHERNYAYEVA, I.V., red.; OVECHKIN, L.T.,
tekhn. red.

[Rails go to the taiga]Rel'sy ukhodiut v taigu. Tiumen',
Tiimenskoe knizhnoe izd-vo, 1961. 42 p. (MIRA 15:12)
(Railroads--Construction)

BARANNIK, Orest Viktorovich, starshiy prepodavatel'; CHERNYAYEVA, Lyudmila Aleksandrovna, assistantka

Coefficients characterizing the form of a current curve in networks with electric arcs. Izv.vys.ucheb.zav.; elektromekh. 7 no.10:1174-1186 '64. (MIRA 18:1)

1. Kafedra obshchey elektroniki Novosibirskogo elektrotekhnicheskogo instituta (for Barannik). 2. Novosibirskiy elektrotekhnicheskii institut (for Chernyayeva).

CHERNYAYEVA, L.Ye.; CHERNYAYEV, A.M.

Practice of compiling maps of nature's underground water resources
in fold-mountain areas. Razved. i okk. nedr 27 no.8:44-46 Ag '61.
(MIRA 16:7)

1. Gayskaya geologorazvedochnaya ekspeditsiya.
(Ural Mountains---Water, Underground)

CHERNYAYEV, A.M.; CHERNYAYEVA, L.Ye.

Some geochemical problems of underground waters in the supergene zone of the Gay copper pyrite deposit. Geokhimiia no.10: 904-914 '62. (MIRA 16:4)

1. Kafedra obshchey geologii i gidrogeologii Sverdlovskogo gornogo instituta imeni V.V. Vakhrusheva.
(Gay region(Orenburg Province)—Water, Underground)
(Gay region(Orenburg Province)—Chalcopyrite)

CHERNYAYEV, A.M.; CHERNYAYEVA, L.Ye.

Characteristics of the formation of underground waters in the eastern regions of Orenburg Province. Sov.geol. 6 no.3:147-151 Mar '63.

(MIRA 16:3)

1. Sverdkovskiy gornyy institut.

(Orenburg Province—Water, Underground)

CHERNYAYEVA, L.Ye.; CHERNYAYEV, A.M.

Evaluation of the natural resources of underground waters
in the eastern regions of Orenburg Province. Biul. MOIP.
Otd. geol. 38 no.5:109-114 S-O '63. (MIRA 17:1)

CHERNYAYEV, A.M.; CHERNYAYEVA, L.Ye.; TOKMACHEV, Ye.I.

Formation of the vitriol lake of Gay. Trudy Sver. gor. inst.
no.43:141-145 '63. (MIRA 18:7)

CHERNYAYEV, A.M.; CHERNYAYEVA, L. Ye., aspirantka

Hydrochemistry of the underground waters of ultrabasic massifs
in the Buribay-Gay structural zone. Izv. vys. ucheb. zav.;
geol. i razv. 7 no.1:109-115 Ja '64 (MIRA 18:2)

KOVALEV, V.F.; CHERNYAYEVA, L.Ye.

Underground waters of the eastern part of Orenburg Province and
their economic significance. Trudy Inst. geol. UFAN SSSR no.69.
Gidrogeol. sbor. no.3:99-116 '64.

(MIRA 17:11)

CHEKUYAYEV, A.M.; KOVALEV, V.P.; CHEKUYAYEVA, I.Ye.

Geochemistry of microcomponents in detrital and surface of the recent weathering surface of water-soluble rocks in the Ural Mountain portion of the Ural region. Geokhimiya no.4:456-466 Ap '65. (MIRA 18:7)

1. Kafedra obshchey geologii i prikl. geologii Sverdlovskogo gornogo instituta imeni V.I. Vernadskogo i laboratoriya regional'noy gidrogeologii Instituta geologii i mineralogiicheskoy AN SSSR.

CHERNYAEVA, O. I.

CHERNYAEVA, O. I.

Presence of A³-carene in the turpentine of the common spruce (Picea excelsa)..
I. I. Bardyshev, A. L. Piryatinskii, K. V. Bardysheva, and O. I. Chernyaeva,
 J. Applied Chem. U.S.S.R. 23, 895-9(1950) (Engl. translation) (Russian Ed., 847-52);
 cf. C.A. 44, 10247 fh--The properties and compon. of two samples of spruce turpentine
 were detd. Turpentine distd. from spruce gum contains in the portion distg. up
 to 200°, 48% 1-a-pinene (I) (nitrosochloride, m. 102-3°), 17% 1-B pinene (converted
 to nopinic acid, m. 126°), 4% d-A³-carene (nitrosate, m. 147°), 18% of a mixt.
 of dipentene (tetrabromide, m. 125-6°) and limonene, and higher-boiling constituents.
 Turpentine obtained from relatively fresh spruce galipot contains I 40, 1-B-pinene
 35, d-A³-carene (b₇₄₃₋₄ 170-170.7°, nitrosate m. 147°) 10% of a mixt. of dipentene
 and 1-limonene, and higher-boiling constituents. The optical activity of I in the
 first sample was much lower than that of I in the second, which is a relatively
 fresh sample.

Richard I. Akawle

2782. Method for the rapid quantitative determination of total pinenes in mixtures of terpenes.
I. I. Bardyshev, O. I. Chernavayeva and A. N. Litvinova. *Gidroliznaya i Lesokhimiya*, 1955, (2), 15-17; *Ref. Zhur., Khim.*, 1955, (10). Abstr. No. 43,342. — A thermometric method is described, based on the measurement of the temp. of isomerisation, polymerisation and partial etherification reactions of the isomerisation products of α - (I) and β -pinenes (II) by the action of H_2SO_4 in acetic acid medium. Of the three terpene hydrocarbons of turpentine, only I and II give a change of temp. under the reaction conditions described. The total amount of heat evolved is proportional to the content of I and II. The sample soln. (10 ml) and a mixture of 100 per cent. acetic acid and 50 per cent. H_2SO_4 (10:1 by vol.) (10 ml) are mixed in a test-tube in a Dewar flask at $25 \pm 0.1^\circ C$. The apparatus is kept in a regulated water bath. At first the temp. drops by 0.2° to $0.3^\circ C$ because of the soln. effect. Increase of temp. of the reaction, Δt , is calculated by subtracting the min. temp. from the max. temp. reached, and then the content of I is determined by a calibration curve made from an artificial mixture of pure I dissolved in turpentine

Chem

2

7
0
0

1/2

BARDYSHEV, I.I., CHERNYAYEVA, O.I. ...

(from which I and II have been completely distilled off). The standard deviation in the determination of Δt is ± 0.13 per cent., equiv. to ± 0.5 per cent. of I. The max. temp. is reached for turpentine in 3 to 6 min., and for distilled residues in 30 min. The distilled residues are therefore diluted with pure I (1:1 by wt.). The described method gives a provisional content of I, for turpentines contain II also, the Δt of which is higher. To determine the actual content of I plus II, subtract 1.5 per cent. (experimental correction calculated on a max. content of 8 per cent. of II in oil of *Pinus sylvestris*) from the result obtained. Camphene does not interfere.

C. D. KOPKIN

2/2
PM
86

CHERNYAYEVA, O. I.

3

Recovery of flotation oil from waste waters of the resin extraction process. V. I. Filatov, G. D. Atamanchukov, and O. I. Chernyayeva. *Gidroliz. i Lesokhim. Prom.* 8, No. 7, 16-18 (1956). — Batchwise and continuous dehydration of terpinol hydrate to α -terpineol (I) by the addition of small quantities of H_2SO_4 or H_3PO_4 (0.05-0.1%) and boiling is reported. The recovered crude I can be applied in flotation. T. Jurcic

17

(2)

MA 84

1. Gidrolizatsiya (for Filatov) 2. Tsentral'nyy nauchno-issledovatel'skiy
lesokhimicheskiy inst. (for Atamanchukov Chernyayeva)

"APPROVED FOR RELEASE: 06/12/2000

CIA-RDP86-00513R000308620013-8

CHENYAYEV, G. I.

APPROVED FOR RELEASE: 06/12/2000

CIA-RDP86-00513R000308620013-8"

CHERNYAYKIN, V.

Operating properties of ZIL-130 motortrucks. Avt.transp.
no.1:38-41 Ja '63. (MIRA 16:2)
(Motortrucks)

CHEK NYAYEVA, P.P.

ODLYANITSKAYA, Ye.L.; CHEK NYAYEVA, P.P. (Leningrad)

Homework in arithmetic in the fifth class. Mat. v shkole no.5:15-
21 S-0'55. (MIRA 8:11)

(Arithmetic--Problems, exercises, etc.)

L 08262-67

EWI(1)

SCTB

DD/GJ

ACC NR: AT6036487

SOURCE CODE: UR/0000/66/000/000/0049/0051

AUTHOR: Bayevskiy, R. M.; Berezina, G. A.; Bukharin, Yu. V.; Chernyayeva, S. A.

ORG: none

TITLE: The choice of diagnostic criteria in constructing algorithms for on-board computers [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966] 35

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 49-51

TOPIC TAGS: space medicine, biotelemetry, biocybernetics, diagnostic medicine, spacecraft computer

ABSTRACT: In order to assure diagnostic medical monitoring under conditions of prolonged spaceflight, a method of programmed investigation based on the use of removable sensors and electrodes was proposed. The method envisaged the use of a small number (4 to 6) of amplification channels, while the number of parameters measured could be as high as 20 to 30. The research is conducted in accordance with a strict time schedule and the use of strictly programmed functional loads. However, in order to conduct effective programmed research under spaceflight conditions, it is first necessary to develop and check research programs under

Card 1/4

L 08262-67.

ACC NR: AT6036487

laboratory and clinical conditions. The use of a digital computer makes it possible to speed up the diagnostic process, to increase its accuracy, and to make it possible to transmit to ground stations a large volume of medical data along telemetric channels of limited capacity. D

The experimental checking of one of the variants of the research program on healthy and sick subjects is described in this paper. It was felt that if the program turns out to be effective during investigation of sick persons, then it should prove effective in revealing sudden or gradual deviations in healthy persons, such as cosmonauts during spaceflights. The program was calculated for utilization of a three-channel amplification system and four research methods. The program involved the use of four periods. During the first period EKG, SKG, and pulmonary ventilation were registered for 1.5 min. During the second period, the results of a breath--holding test (inhaled, 20 sec and exhaled, 20 sec), were registered. During the third period, work performed on the wrist dynamograph was measured for a period of 1 min at a rate of one contraction per second. In this case, EKG, pulmonary ventilation, and pulmonary myogram were registered. The fourth period was devoted to rest (recovery), comparable to the first period. This method was tested on 35 healthy subjects and 35 subjects suffering from infarcts of the myocardium, hypertonic disease,

Cord 2/4

L 08262-67

ACC NR: AT6036487
and arteriosclerosis.

During analysis of the data obtained from each of the subjects, about 150 different signs were determined. Each of the signs was then processed statistically for each of the groups and classified on the basis of degree of reliability of differences. Signs which were close to one another in the two groups were rejected as diagnostically ineffective. Sufficiently distinct signs achieved the significance of diagnostic criteria.

During the rest period, signs which could be used as criteria were very few. Most of them were indicators of pulmonary ventilation. During the breath--holding test, differences showed up in a number of signs. The most important of these was the nature of changes in the RR intervals of electrocardiograms. During work of the dynamograph substantial differences in many signs appeared between the two groups. During the second rest period, more clearly expressed differences were observed than during the first rest period.

It is assumed that in the future it will be possible to select groups of signs which will make it possible to assure differential diagnosis of many states and even deviations in the functioning of individual systems of the organism.

Card 3/4

L 08262-67

ACC NR: AT6036487

In programmed medical investigations involving the use of computers, it is possible to have direct information inputs from man to machine and also to use memory for temporary information storage. Output from the on-board computer can be sent directly to the telemetric channel, or to memory storage units, or to the doctor. Programmed medical investigations with the use of an on-board computer can turn out three types of output: in the form of values for individual signs (up to 200 digits for a single investigation), in the form of processed results for each of the program periods (up to 20 digits for a single investigation), and in coded form indicating the general condition of the subject, any deviations present, and the measures necessary to correct them (4 to 5 digits).

It has been found that in the course of a programmed investigation it is possible to obtain a large number of different signs and, based on these signs, to formulate diagnostic criteria which will permit a clear differentiation between normal and pathological conditions. Investigation of the diagnostic effectiveness of various programs under clinical conditions has found methodological justification and is useful not only for space but also for earthside medicine. It should be assumed that the method of programmed investigation with automatic processing of information by means of an on-board computer will solve the problems of medical investigation and diagnosis under conditions of prolonged spaceflights.

[W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 4/4

L 43221-65 EPP(n)-2/EVT(m)/EWP(b)/... - ... JIP(c) 10/10
 ACQUISITION N° AP5-9004

AUTHOR: Zhernyayeva, V. A.

TITLE: Spectral analysis of tantalum

SOURCE: Sovetskoye radio, v. 11,

TITLE TA. Spectral analysis of tantalum
 Aluminum, vanadium, and other plates,

ABSTRACT: The spectral method of L. ...
 ... small ...
 ... tantalum ...
 ... and ...
 ... the ...
 ...
 ... to be ...
 ... used w ...
 ... of Spu ...
 ... and the ranges ...
 ... tabulated.

Coro ...

L 43221-65

ADMISSION NR: APO009912

ASSOCIATION: Moskovskiy elektrolampovy

SUBMITTED: 00

FIN.

NO REP SOV: 00

OTI

A. C.
Card 2/2

CHERNYAYEVA, V.G.
AFONIN, V.I.; KOPOSOV, I.A.; ROMANOV, Yu.A.; ~~CHERNYAYEVA, V.G.~~

Surface radiometric surveying in the lower Volga Valley and
Ciscaucasia. Geol. nefi 1 no.6:48-52 Je '57. (MIRA 10:8)
(Volga Valley--Petroleum geology)
(Caucasus, Northern--Petroleum geology)
(Gamma rays)

CHERNYAYEVA, V.I., assistant (Tomsk)

Symptom characteristics and the diagnosis of syphilis of the
cardiovascular system (clinical anatomical parallels). Kaz.
med. zhur. no.5:71 8-0 '61. (MIRA 15:3)
(CARDIOVASUCLAR SYSTEM--SYPHILIS)

CHERNYAYEVA, Ye. F.; FLORINSKAYA, V. A.

"Infra-red spectra of lithium-silicate glasses and their connection with the structure."

report submitted for 4th All-Union Conf on Structure of Glass, Leningrad,
16-21 Mar 64.

CHERNYAYEVSKAYA, S.G.; KEDRIN, I.D.

Microscopy of martensite transformations in 1Kh18N9T steel during
deep freezing. Izv.vys.ucheb.zav.; Chern.Met. no.4:89-92 '61.
(MIRA 14:4)

1. Dnepropetrovskiy gosudarstvennyy universitet.
(Steel alloys--Metallography)

DONIGEVICH, M.I., kand.med.nauk; CHERNYAYEVSKAYA, Yu.Ye. (Mordovskaya ASSR)

Course of labor following cesarean section. Vop. okh. mat. i det.
6 no.5:67-71 My '81. (MIRA 14:10)
(CESAREAN SECTION) (LABOR)

LUTSKIY, A.Ye.; VOLOVA, L.M.; CHERNYAYEVSKIY, P.A.

Intramolecular hydrogen bonding and dipole moments in organic compounds. Part 8: 2,4- and 4,6-Diacetylresorcinols and their methyl esters. Zhur. ob. khim. 30 no.12:4085-4088 D '60.

(MIRA 13:12)

1. Khar'kovskiy politekhnicheskiy institut.

(Resorcinol--Dipole moments)

(Hydrogen bonding)

CHERNYAYKIN, V., inzh.

Tables of technical equipment for automotive transportation
units. Avt.transp. 37 no.3:16-17 Mr '59. (MIRA 12:4)
(Transportation, Automotive--Equipment and supply)

~~CHERNYAYKIN, Y. A.~~, otvetstvennyy za vypusk; GALAKTIONOVA, Ye. N.
tekhnicheskiy redaktor

[Fluorescent lighting of greasing pits] Liuminestsentnoe
osveshchenie osmotrovnykh kanav. Moskva, Nauchno-tekhn. izd-vo
avtotransp. lit-ry, 1956. 11 p. (MLRA 10:5)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy institut
avtomobil'nogo transporta.
(Fluorescent lighting)

CHERNYAYKIN, VLADIMIR ALEKSANDROVICH

~~CHERNYAYKIN, Vladimir Aleksandrovich; VASIL'YEV, N.S., red.; GALAKTIONOVA,~~
Ye.N., tekhn.red.

[Fulfilling the five-year plan in three years; the experience of
chauffeur I.V.Bobrov at the no.1 automobile base of the Main
Administration of Motorized Freight Transportation] Piatiletku -
za 3 s polovinoi goda; iz opyta shofera 1-i avtobazy Glavmosavto-
transa I.V.Bobrova. Moskva, Nauchno-tekhnizd-vo avtotransp. lit-ry,
1957. 23 p. (MIRA 10:12)

(Motortrucks)

CHERNYAYKIN, Vladimir Aleksandrovich

CHERNYAYKIN, Vladimir Aleksandrovich; VASIL'YEV, N.S., red.; GALAKTIONOVA,
Ye.N., tekhn.red.

[For centralized transportation of bricks; the experience of truck-
driver I.S.Fedotov at the no.1 truck base of the Main Administration
of Motorized Freight Transportation] Na tsentralizovannykh pere-
vozkakh kirpicha; iz opyta shofera 1-1 avtobazy Glavmosevtotransa
I.S.Fedotova. Moskva, Nauchno-tekhn.izd-vo avtotransp.lit-ry, 1957.
25 p. (MIRA 10:12)

(Bricks--Transportation)

(Motor trucks)

~~CHERNYAYKIN, Vladimir Aleksandrovich~~

PLEKHANOV, Ivan Petrovich; ~~CHERNYAYKIN, Vladimir Aleksandrovich~~; PAPHEL',
Sergey Vladimirovich; ~~SHASTOPALOV, K.S.~~, redaktor; MAL'KOVA, N.V.,
tekhnicheskii redaktor

[Truck driver's handbook] Spravochnik shofers. Moskva, Nauchno-
tekhn.izd-vo avtotransp.lit-ry, 1957. 267 p. (MLRA 10:9)
(Motortrucks)

PLEKHANOV, Ivan Petrovich; CHERNYAYKIN, Vladimir Aleksandrovich; PAPMEL',
Sergey Vladimirovich; LESNIAKOV, F.I., red.; GALAKTIONOVA, Ye.N.,
tekhn.red.

[Automobile driver's handbook] Spravochnik shofera. Izd.3.,
perer. i dop. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo
transp. i shosseinykh dorog RSFSR, 1959. 271 p. (MIRA 13:1)
(Automobile drivers--Handbooks, manuals, etc.)